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THE
BROWN CREEK
WATERSHED



VOL. I NO. 3

WADESBORO, N.C.

September 15, 1934.

Medley's
mill

Polkton

Peachland

BROWN CREEK

Poplar Hill
Church

White
store

UNION COUNTY
ANSON COUNTY

Lanes Creek
School

Philadelphia
Church

North Carolina

Chesterfield
County

South Carolina

Pageland, S.C.

THE BROWN CREEK WATERSHED is being put out by the Soil Erosion Staff once each month, mainly to assist in telling what we are doing and maintain a spirit of good fellowship with the citizens of the community we endeavor to serve.

EXECUTIVE

E. S. Vanatta, Asst. Regional Director.
W. B. Little, Clerk.

H. M. Stott, Asst. Erosion Specialist.

SOILS

R. W. Lipscomb, Asst. Soil Expert.

AGRICULTURAL ENGINEERING

Donald Christy, Asst. Agricultural Engineer.

AGRONOMY

A. A. Cone, Asst. Agronomist.

FORESTRY

To be selected.

Directing personnel for the ECW Camp at Polkton are as follows:

W. B. McManus, Superintendent.
R. B. Stamey, Engineer.
S. W. Myers, Foreman.
S. J. Crocker "
C. S. Faw "
C. A. Neal "
C. W. Thompson "
M. L. Ross "
B. W. Ingram, Mechanic.
W. L. Teal, Clerk-Stenographer.

The farmers living or owning land in the boundaries of the Brown Creek project have a wonderful opportunity in this program.

This office and Wadesboro were favored by a visit from Director and Mrs. H. H. Bennett, September 2nd and 3rd. Although Mr. Bennett was supposedly enjoying a vacation, and had most convincingly promised Mrs. Bennett that he would not even mention soil erosion during the trip, his first act after reaching Wadesboro was to get in touch with members of the staff and to arrange for a trip about the project area. Dr. Bennett discussed in enthusiastic terms the progress of soil erosion control in the twenty-seven projects scattered throughout the United States. He expressed himself as being well pleased with the progress we are making, and was especially impressed with the cooperation we are receiving from the farmers in the area and everything generally. He says that on other projects he first figured that if twenty-five per cent of the farmers cooperated, the success of the work would be assured. Imagine his gratification to find that ninety per cent are already cooperating and the remaining ten per cent are asking to come in.

We were very glad during the month to have had as visitors from the Temple, Tex., project Mr. H. Osborne Hill and Mr. Woodburn, of the engineering departments respectively. Mr. Hill is the son of the late Ben. R. Hill of Wadesboro.

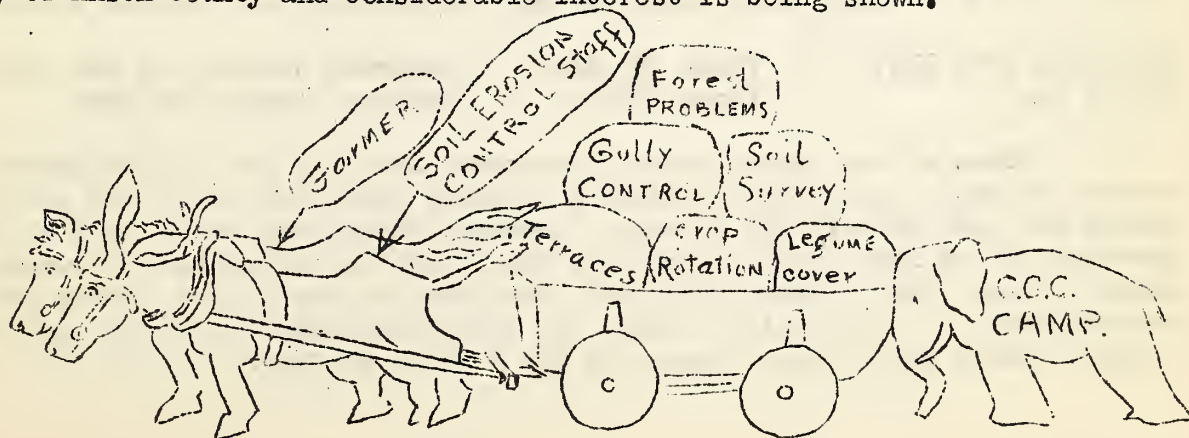
We would like to take this opportunity to emphasize a point brought out elsewhere in this issue by our Agronomy Department. Even though running a double shift on our tractor-grader equipment, it will not be possible to reach every cooperating farmer with our terracing program this fall and winter, or even a large proportion of them.

Practically every farmer in the area grows more or less small grain through the winter months. Fall sown oats should soon be seeded. Those grains may well be sown as strip crops, following the contour line of the field slope. Early next summer when these small grains have been harvested, terracing may be accomplished without interfering with the adjoining cultivated crops.

Our engineering department will be glad to lay off the contours which should serve as a guide for your strip areas, at any time subject to your call.

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We are interested in effort being made to secure rural electrification in North Carolina. Mr. F. Allon Little has been appointed to make a survey of Anson County and considerable interest is being shown.



CO-OPERATE !

COOPERATIVE AGREEMENTS

H. M. Stott.

In our last issue we stated that we were about ready to begin working out cropping plans and writing cooperative agreements. Our first agreement was signed by Mr. John A. Redfern of Peachland, on August 21st. Up to the present time we have made cropping plans and completed cooperative agreements for twelve farms as follows:

N. B. Allen	Mrs. James Crowder	F. H. Morgan
C. C. Lowery	W. J. Phillips	B. N. Lowery
J. C. Caudle	C. H. Rivers	John A. Redfern (2 farms)
Adam Carpenter	H. W. Lowery	

These farms range in size from one of $19\frac{1}{2}$ acres in cultivation to one of 160 acres in cultivation. On some of them erosion has been fairly well controlled. While on others erosion has almost completely destroyed the top soil in many fields. In fact, these twelve farms would give a good cross section of practically every condition and problem we will have to meet in this area. It might be interesting to note some of the facts about the plans for these farms. For instance, we find:

Total acres 1338	Acres to be strip-cropped 316
Cultivated acres 615	Acres to be planted in trees 18
Acres to be terraced $408\frac{1}{2}$	Acres to be planted in pasture 14

Looking at the five year cropping plan for these farms and taking 1936 as an average we find the following acreages of the major crops to be grown on these farms that year:

Cotton $157\frac{1}{2}$; Corn $142\frac{1}{2}$; Small grain 212; Lespedeza 317

It will be noted that approximately half of the cultivated land is in corn and cotton and half in lespedeza. It will be noted also that about two-thirds of the lespedeza is new seeding on the small grain, while one-third is second year crop. This indicates that one-half of the lespedeza seeded each Spring will be plowed under after one year's growth, while the remaining half will be allowed to stand two years. To assist these owners in getting a good rotation established the Soil Erosion Service has agreed to furnish the following seeds; these seeds and trees are to be planted this Fall and Winter on fields subject to erosion and which need these crops for soil improvement and erosion control:

Lespedeza 8000 lbs.	Vetch 390 lbs.	Austrian Winter Peas 480 lbs.
Rye 43 bu.	Trees 18000	Pasture Mixture 580 lbs.

Some of the small farmers have been afraid of our program because they thought we might want them to follow a cropping plan which would not permit enough cotton and corn to meet their needs. However, in all the above plans we have provided for as much cotton acreage as the farmer is now allowed to plant. The cotton acreage can be easily adjusted from year to year to meet cotton legislation requirements. We have also planned for sufficient corn acreage to meet the farmer's needs and in most cases give him a small surplus.

We give below the five year cropping plan as worked out for one of the twelve farms mentioned. We do not consider it an ideal plan, but it is practical and workable for this farm. It will help to control erosion and will increase soil fertility. At the same time it gives the farmer ample corn and cotton acreage each year. It will be noticed that in some cases cotton is planted on the same land for two years in succession. Where this occurs rye is to be used as a winter cover crop.

Field	1934	1935	1936	1937	1938
1 15A.	Corn	Grain & Lespedeza	Corn & Beans	Grain & Lespedeza	Corn & Beans
2 15A.	Grain	Corn & Beans	Grain & Lespedeza	Corn & Beans	Grain & Lespedeza
3 14A.	Cotton	Grain & Lespedeza	Grain & Lespedeza	Cotton	Cotton
4 2A.	Idle	Cotton	Cotton	Grain & Lespedeza	Grain & Lespedeza
5 13A.	Cotton 7A. Oats 6A.	Cotton 7A. Grain & Lespedeza Strips 6A.	Cotton 7A. Grain & Lespedeza Strips 6A.	Cotton 6A. Grain & Lespedeza Strips 7A.	Cotton 6A. Grain & Lespedeza Strips 7A.
6 8A.	Cotton 2A. Idle 6A.	Cotton 4A. Grain & Lespedeza Strips 4A.	Cotton 4A. Grain & Lespedeza Strips 4A.	Cotton 4A. Grain & Lespedeza Strips 4A.	Cotton 4A. Grain & Lespedeza Strips 4A.
7 5A.	Grain	To be seeded to permanent pasture. Seed to be furnished by Soil Erosion Service.			

NOTE: The Soil Erosion Service is furnishing for the above farm the following seeds: Lespedeza 660 lbs.; Pasture mixture 200 lbs.; Rye 2 bu.

AGRONOMY DEPARTMENT

A. A. Cone.

Very soon, with the removal of crops, a great deal more land will be ready for terracing than will be possible to get done. Unless we plan for this ahead the Soil Erosion Service and the farmers will be handicapped on account of the fact that growing crops prevent terrace construction over a large part of the year, and bad weather in the winter months still further reduces the period for construction. Naturally our help in the construction of terraces could not be expected to be extended to every farm at the same time. How can we extend this construction period over a larger part of the year is the question.

Our engineering department can lay off contours during the early fall on land which will serve as a guide for planting some winter crop in strips run along these contour lines. These strips will mature a crop in the spring or early summer and the terraces can be constructed during the spring and summer months. Strips should be sufficiently wide for pulling up enough soil for a well built terrace - at least forty feet, and fifty would probably be better to be safe.

If oats are to be sown on these strips, request should be made at once for the contour lines. This should follow the preparation of cooperative agreements which are now being made as rapidly as possible, and the strips taken into consideration in the plans for the 1934-1935 crop.

The practice of what is known as strip cropping is one of the most valuable erosion control methods in many instances. Strip cropping means devoting a part of each field to close growing, soil-binding crops, in strips of varying widths, the alternate strip being planted to row crops. Strips should always be run with the contour of the field. Cultivated row crops on the alternate strips should always provide for contour tillage, that is, the rows should also be run to follow the contour of the slope, laying them off level or nearly level.

Strip cropping on some slopes may replace terracing but best results are usually obtained by combining these two methods when each is of immense value to the other and resulting in the nearest complete control of soil wash that can be accomplished when clean cultivated crops are grown. From the clean cultivated strip some soil is washed, but the strip below, planted to close growing crop serves to filter out the soil particles from the run-off water and also so hampers the movement of the water that much of it is held long enough to be absorbed.

A good rotation can be practiced by strip cropping. For instance, instead of planting one entire field to row crops and another to small grain, possibly followed by a legume hay crop, strips can be so arranged as to relative width that your desired rotation will fit in nicely. Just how these would be best arranged would depend on the rotation desired and the kinds of crops to be grown.

We invite any questions on strip cropping which are not entirely clear to you and you may be assured that it is a subject well worthy of your most serious consideration from the standpoint of erosion control.

SOILS DEPARTMENT
R. W. Lipscomb.

PURPOSE OF EROSION SURVEY

In a previous publication of the Brown Creek Watershed it was stated that the purpose of the erosion survey was to determine the extent of erosion, the per cent of slope of the soil, the soil types and the culture or use of the soil. There is still another reason why an erosion survey is made of each farm in the Brown Creek Watershed. We all know that when an area is first cleared the soil has a good sandy loam topsoil, which will produce abundantly for the first few years. Then there is a gradual decrease in the productivity of the soil until finally it produces a very limited crop even when applications of fertilizer have been made. This is due to sheet erosion which has been going on unnoticed for these several years. After sheet erosion has depleted the field of most of the surface soil, gullies may develop at any time and at any place where there is a concentration of water on a slope. In making an erosion survey we are able to determine approximately how much of the topsoil and subsoil have been removed in the past, and in knowing this can determine very closely to what extent the erosion is going on at present. With this information methods of control are worked out for individual farms.

SOILS OF THE BROWN CREEK WATERSHED

Many years ago the soils of the Brown Creek Watershed were very fertile. Especially was this true of the soils of the vicinity of White Store, this locality having been called the "garden spot" of North Carolina. This can hardly be said of these soils now after a visit over this area. Here we find numerous gullies where once the soils were very fertile. The soil survey shows that twenty-five to seventy-five per cent of the surface soil has been removed on practically all of the upland soils and even as much as one hundred per cent has been removed in many instances. The soil survey also shows that many areas have been entirely destroyed as far as cultivation is concerned. In these areas not only has the surface soil been entirely removed by erosion, but large gullies have been formed, which prevents the use of necessary machinery for cultivation.

Erosion is still very active on practically all of the upland soils and if something is not done very soon to check this erosion it will be a case of cultivating the bottom-lands only if a profit is expected.

Information forming a part of each cooperative agreement shows degree of erosion on each field. From this, the owner, knowing how long any individual field has been used, may easily figure how long according to past history of the field, it will take if no change in land use is made, for all the productive top soil to be lost. This would not be quite accurate for the reason that as washing goes on, the erosion is accelerated, that is, the further erosion is allowed to go, the faster the land washes.

The Soil Erosion Service has a program to offer to the farmers of the Brown Creek Watershed that will retard soil wash and at the same time start building up the fertility of the soil so that a greater profit may be expected in the future from farming.

AGRICULTURAL ENGINEERING

Donald Christy.

BOOM! BOOM! Do not get excited. It's a war all right but not just the kind of war friend John A. Redfern would have you believe -- if he really had any idea anyone would believe his story about the real purpose of the terraces built on his farm. But back to the noise -- It's only the dynamite crew clearing stumps and rocks from where terraces are to be constructed. The dynamite crew cuts down labor cost rather than enemy fortifications; and increases the amount of terracing accomplished. THE WAR is on erosion and is to be fought to a finish.

Terraces after construction require care and attention, especially before the loose soil has had time to become thoroughly settled. All terraces should be inspected after the first heavy rain after their completion and all breaks filled and the cause of the break remedied. It is best to see that the water channel and the soil immediately below the terrace is thoroughly loosened and some kind of close growing crop planted upon completion. It may be necessary to use a little fertilizer on the spot where the soil for the terrace was taken until the soil from above works down over this spot.

The crop rows should be run parallel with the terraces, one row being on top of the terrace if a single row cultivator is used. The cultivation of the top row tends to keep the terrace at the proper height.

If while plowing a back furrow is made on the top of the terrace ridge and the dead furrow somewhere between terraces the height will be maintained in most cases and the terrace is broadened each year until the whole field is a series of smooth waves. Where there is considerable wash between terraces and difficulty is encountered in maintaining terrace heights the dead furrow may be allowed to fall in the waterchannel or the terrace may be plowed up more than once. Rather than attempt to grow a money crop the first year on eroded or run-down land, follow the terracing with a cover and green manure crop to improve the soil. It is vitally important to keep all land with enough organic matter to absorb most of the rain that falls.

When a road must cross a terrace it is important that the terrace be maintained to prevent breaking. If the road is much used a wooden structure should cross the terrace, reducing the water channel as little as possible. Woods and grasses should not be allowed to grow where the road crosses the terrace as this constricts the channel and may cause a break.

The Soil Erosion Service received two new tractors and these have been put to work. These two tractors will materially increase the amount of terracing done by the Soil Erosion Service and will be used on the farms where the cooperative agreement has been signed. The tractors will naturally be used where farmer shows the greatest interest in helping with the terracing in the way of man and horse power and his willingness to use this power.

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Wells have a tendency to go dry at times and the depth of water often varies with the season or with the rainfall. The Soil Erosion Service desires to make regular measurements on some wells where the water is not used. (Abandoned wells). We would appreciate the farmers giving us the location and history of those wells on the place as best they know.

ECW CAMP SES NC #1.

As the work progresses the interest has been noticeably increased by the land owners within the area and appreciably has there been an increase by onlookers and interested ones from without the watershed of Brown Creek.

Recently we have had numerous visitors from various points but for lack of space we regret we can only name those coming in groups.

On August 30th, the following: Prof. R. W. Allen, Superintendent of Anson County Schools; Mr. B. W. Ingram and Mr. M. E. Lowry, members of the Anson County Board of Education; Mr. and Mrs. R. F. Beasley of Monroe, N. C. - Mr. Beasley is Editor of The Monroe Journal.

On August 31st: Mr. Carl Maynard of The Seaboard Air Line Railway Co., and Mr. T. B. Lamey, Columnist on the Monroe Journal staff.

On September 5th: Mr. J. F. Allen, and Mr. S. J. Turner, members of the Board of Commissioners for Anson County; Mr. F. E. Liles, Register of Deeds; Mr. R. E. Little, Clerk of Court, and Miss Jane Pratt, Secretary to our Congressman, The Hon. Walter Lambeth. We were highly gratified that Miss Pratt was present and accompanied our staff to our actual field operations. She was one of the most enthusiastic in praise of the program and was well informed as to the importance and need for the project. Also it was her request, on behalf of Mr. Lambeth, that our periodical The Brown Creek Watershed should be mailed him regularly.

On the above occasions, Prof. Allen, Editor Beasley and Miss Pratt made short talks to the boys.

On September 6th: Our Morven, N. C. friends, making up a party of the following: Mr. T. V. Hardison; Mr. M. L. Ham; Mr. Cliff Ratliff; Mr. Marcus Ham, and Mr. Wigley, Vocational Teacher for Morven High Schools, came and pretty thoroughly covered our field operations.

This week we had Mr. Pate, of the State School Board from Raleigh, as a visitor. Mr. Pate's home county, Scotland, is soon to have a CCC Camp for forestry work. He was most enthusiastic on the subject of erosion control and regrets the fact that a similar work is not being done in his county.

It has been noticeable that all parties were quick to appreciate the benefits to be derived from the work viewed. Not only the actual benefit accruing to the individual land owner, but the benefits to be derived from having such a demonstrative project here, from which valuable lessons on soil erosion may be learned, as well as the training in this work which will be passed back to the various communities as the CCC Boys return to their homes.

The cooperation by the landowner is very pleasing and we will welcome continuously your aid in this service, that we will be enabled to move on, that we can better be able to serve all as hurriedly as possible in some or all phases of the work.

